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Eagle Point Solution to a Frequently Asked Question

How to Rebuild a Surface Model that is Partially Working

Summary:
Sometimes volumes won't compute using a surface model but track coordinates and contours work correctly. The surface model seems to have gone partially bad. The solution is to rebuild a new surface model from the points and breaklines exported directly from the existing surface model. This can be done without having to turn layers on and off that have the correct survey points and breaklines. Take the steps to verify the new surface model for correctness.

Product: Eagle Point Software™ 2004
Release: 2003 Q4 or 3.4.0 and greater
Platform: All
Related documents:

Notation Method

Button to Press *Displayed Text* **Icon** Action {Text to Enter} *Menu Item…*

From the main Eagle Point menu, click *System…* and checkmark *Embedded CAD Menus…* to put the EP menu into the AutoCAD menus.

Export the Surface Model Points and Breaklines

1. From AutoCAD, click *EP… Surface Modeling.* (Surface Modeling menus will appear within the CAD menu).
2. Click *Prepare… Export ASCII… Points….*
3. Pulldown the correct Surface Model Name. E.g. {*Ognd*}.
4. Browse to the project folder and input a file name for the exported points. E.g. {BC26 Ognd Xpts.asc}.
5. Select *Point#, N, E, Elev, Desc*.
6. Click Apply. Click OK. Click Close.
7. Click *Prepare… Export ASCII … Breaklines...* .
8. Pulldown the correct Surface Model Name. E.g. {*Ognd*}.
9. Browse to the project folder and input a file name for the exported breaklines. E.g. {BC26 Ognd Xbrkl.txt}.
10. Select *Point#, N, E, Elev, Line Ind*.
11. Click Apply. Click OK. Click Close.

Triangulate a New Surface Model from the Points and Breaklines External Files

1. Click *Triangulate… Surface Model….*
2. Click **Manage Surface Model** and set up a 2nd version of the Surface Model (E.g. Ognd2) using the correct library and return to the Triangulate Surface Model Screen.

3. Pulldown Surface Model to the new name for the surface {*Ognd2*} and pulldown the Boundary method to match the method that was used for the original surface.
4. Checkmark *Use External Point File*.
5. Click Build File List…
6. Click New.
7. Browse to the Point file. E.g. {*BC26 Ognd Xpts.asc*}.
8. Pulldown *Point#, N, E, Elev, Desc*.
9. Click Apply.
10. Browse to the Breakline file. E.g. {*BC26 Ognd Xbrkl.txt*}.
11. Pulldown *Point#, N, E, Elev, Line Ind*.
12. Click OK. Click Close.
13. Click Apply.
14. Press Enter since only external files are being used to create the surface model.
15. Select the Boundary as necessary.
16. Click Close.

Verifying the New Surface Model

1. Click *Contours… Make Intermediate & Index….*
2. Verify the surface model name *Ognd2*.
3. Usually no checkmarks are place in any of the boxes.
4. Click Apply. Contours will appear in CAD.
5. Click Close.
6. Review the contours to determine whether the surface model is correct.
7. Click *Triangulate…Track Coordinates….*
8. Verify the surface model name *Ognd2*.
9. Click Apply.
10. Move cursor around in CAD and elevations will be displayed.
11. Click Close.

Locking the New Surface Model

1. Click *Prepare… Manage Surface Models….*
2. Highlight the new surface name (E.g. *Ognd2*).
3. Click the **lock** icon to lock the surface model data.
4. Click Close.

When done you can hide the COGO menu items: From AutoCAD, click *EP… AutoCAD.*

Use this new surface to calculate volumes and for projecting slopes.

Note: If you use a process to create a surface model from the triangles, you will NOT be able to use contour smoothing, even though the rest of the surface model and volume calculations would be identical.

Submitted by Norman Friedrich.